

Claims

1. In a multi-node, multi-channel, multi-remote radio telephone communications system including cellular radio systems wherein the mobiles transmit on channels in a first band and the bases transmit on channels in a second band, a routing system of call connection and call routing comprising the following;

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- a) routes that are selectable from more than one possible route to a desired destination
 - b) routing tables to permit different destinations for different calls selectively based on telephone number indications
 - c) multiple blind nodes that do not support direct base to mobile communication
 - d) said multiple blind nodes transmitting in the band used for transmission by the mobiles,
- and
- e) said multiple blind nodes receiving in the band used for receiving by the mobiles, whereby the entire system performs in a limited number of bands of frequencies.

2. In a multi-node, multi-channel, multi-remote radio telephone communications system including cellular radio systems wherein the mobiles transmit on channels in a first band and the bases transmit on channels in a second band, a routing system of call connection and call routing comprising the following;

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- a) routing tables to permit different destinations for different calls selectively based on telephone number indications
 - b) multiple blind nodes that does not support direct base to mobile communication
 - c) said multiple blind nodes transmitting in the band used for transmission by the mobiles,
- 20
- and

d) said multiple blind nodes receiving in the band used for receiving by the mobiles,
whereby the entire system performs in a limited number of bands of frequencies.

3. In a system as in claim 2 wherein cross bar switching apparatus is in the drop, and
selecting drops is accomplished by simple switching at the base sites.

5 4. In a system as in claim 2 further including directional antennas that are used to beam node
to node communications thereby maximizing received signal strength.

5. In a system as in claim 2 further including the usage of dynamic signal to interference tests
as an aid to assigning channels.

6. In a system as in claim 2 wherein routes thru nodes alternate between blind nodes and
bases.

7. In a system as in claim 2 further including the selection of node to node antenna patterns
dependent upon actual received signal strength.

8. In a system as in claim 2 wherein the routing tables are located at the nodes.

9. In a multi-node, multi-channel, multi-remote radio telephone communications system
including cellular radio systems wherein the mobiles transmit on channels in a first band and the
bases transmit on channels in a second band, a routing system of call connection and call routing
between nodes comprising,

a) routing tables to permit different destinations for different calls selectively based on
telephone number indications; and

20 b) providing antennas for communications between nodes, and selecting antenna patterns
based on actual signal strength measurements.